

EV316936 353

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION FOR LETTERS PATENT

TASKBAR MEDIA PLAYER

Inventors:

Geoffrey John Elliott, Richard William Saunders, Myron Clifford Thomas,
and Madhuvan Gupta

ATTORNEY'S DOCKET NO. MS1-1476US

1
/

1 **TECHNICAL FIELD**

2 This invention relates to a system and method for playing and controlling
3 media through a taskbar.

4

5 **BACKGROUND**

6 Computer users like to multitask. That is, they like to interact with more
7 than one service at once. Some applications, such as Microsoft's® MSN8 Internet
8 Software®, allow users to interact with multiple types of services without needing
9 to interact with multiple applications. MSN8 allows, for example, a user to
10 browse the Internet and at the same time enjoy and control media, like hear and
11 control a song, or see and control a video clip. Most applications, however, do not
12 provide a user with a media player to enjoy media at the same time as perform
13 other tasks in the application. For example, most word processing and email
14 applications—in which many users spend a great deal of time working—do not
15 provide users with a media player to enjoy and control media.

16 Users can work around this problem with non-media applications in some
17 limited ways, however. A user can open a media player to provide media-playing
18 services. Once interacting with the media player's window (and thus not the non-
19 media application's window) the user can have the media player play media, like a
20 video clip or a song. Once the media is playing, the user can then switch back to
21 the non-media application to work in and interact with the non-media application,
22 and the media can continue playing.

23 One problem with this, however, is that to control the media being played,
24 the user has to switch perspective from the non-media-playing application back to
25 the media player. A user interface or window that is not in perspective cannot

1 fully interact with a user, such as by receiving input from a user and actively
2 display information to the user.

3 Thus, the user has to cease working in and interacting with the non-media
4 application to interact with the media player's window so that the user can control
5 the media being played. The user often cannot change the volume, advance to
6 another song on a CD being played, or otherwise control the media without first
7 disengaging from the non-media application's window, initializing engagement
8 with the media player's window to put it in perspective, and make the control
9 change. After this the user still has to re-engage with the non-media application's
10 window to go back to working in and interacting with the non-media application.

11 At the least, most users have to take the time and effort to click on the
12 media player's window to put it in perspective, make the control (such as by
13 clicking on a fast forward button), and click on the other application to bring it
14 back into perspective. This can be three mouse-clicks, for each of which the user
15 may have to locate and move the mouse to a particular spot. This can take an
16 appreciable amount of time, in part because the user has to perform it, but also if a
17 computer system running these applications takes time to bring these applications
18 in and out of perspective. Thus, this switching back and forth between
19 applications in order to control media can be time consuming and inconvenient for
20 a user.

21 User interfaces for typical media-playing applications can also be
22 inconvenient. Many user interfaces for media-playing applications take up
23 significant space on the screen, possibly interfering with the user's interaction with
24 the non-media-playing application.
25

1 In Fig. 1, for example, a media-playing application's window 102 obscures
2 a non-media-playing application's window 104.

3 Also, the controls on these user interfaces can become obscured by other
4 user interfaces (like windows), making them hard to find. If, for example, the
5 non-media-playing application's window 104 were brought back into perspective,
6 such as by bringing it into focus (not shown), the window 104 could cause a
7 media-playing application's controls 106 to be obscured by the non-media-playing
8 application's window 104. This is because a window or user interface that is in
9 focus will usually be brought to the forefront, thereby potentially obscuring other
10 windows and user interfaces.

11 This further inconvenience makes typical media-playing applications
12 difficult to use when also using a non-media-playing application. With typical
13 media-playing applications, the user has to locate the controls, which could be
14 obscured or moved, bring into perspective the user interface (such as by clicking
15 on the media-playing application's window), select a service through the control,
16 and then go back to the non-media-playing application's window in which the user
17 wishes to continue working.

18 Current systems and methods do not provide users with sufficient ability to
19 control media unless the application being used contains a media player. For
20 applications that do not, users often cannot conveniently and quickly control
21 media when also working in another application.

22 **SUMMARY**

24 The following description and figures describe a system and method for
25 playing and controlling media with a player integrated into a taskbar. This system

1 and method enables a user to control media quickly and easily through controls in
2 a taskbar, as well as view visual media in a visual space connected to the taskbar.

3 4 **BRIEF DESCRIPTION OF THE DRAWINGS**

5 Fig. 1 illustrates exemplary user interfaces for a non-media-playing
6 application and a media-playing application.

7 Fig. 2 illustrates an exemplary user interface for a non-media-playing
8 application and a taskbar media player's user interface, the taskbar media player
9 showing a graphic in its visual space.

10 Fig. 3 illustrates a computer system for a taskbar media player.

11 Fig. 4 illustrates an architecture showing a non-media-playing application's
12 process, an operating system shell process, and a media-playing server's process
13 and applications running within them, which are within the memory of the
14 computer system of Fig. 3.

15 Fig. 5 illustrates an exemplary user interface of a taskbar media player
16 showing a visualization in a visual space.

17 Fig. 6 illustrates an exemplary user interface of a taskbar media player
18 showing metadata in a visual space.

19 Fig. 7 illustrates an exemplary user interface of a taskbar media player
20 showing dialog boxes in a visual space for selection of metadata.

21 Fig. 8 is a flow diagram of an exemplary method for controlling media
22 through a user interface without switching perspective to that user interface.

23 Fig. 9 is a flow diagram of an exemplary method for creating and using a
24 taskbar media player.

Fig. 10 is a block diagram of a computer system that is capable of implementing a method for controlling media through a taskbar player.

The same numbers are used throughout the disclosure and figures to reference like components and features.

DETAILED DESCRIPTION

The following disclosure describes a media player integrated into a taskbar. This taskbar media player and its related methods enable a user to control media quickly and easily, even if the user is working in another application. Unlike current media players, the taskbar media player's controls do not get in the way of other applications' windows, and do not require a user to bring the player into perspective or cease perspective with other applications in order to interact with it. This saves a user time and effort. The taskbar player also includes a visual space for viewing visual media, which can make viewing media while also working in another application more convenient than in the current state of the art. In short, this taskbar player and related methods allow a user to more easily control and view media.

In Fig. 1, for example, the non-media-playing application's window 104 is obscured by the media-playing application's controls 106. If, on the other hand, the non-media-playing application were brought back into perspective (not shown), the window 104 could obscure the media-playing application's controls 106 and window 102.

In Fig. 2, however, an example of a taskbar media player's user interface 202 is shown. In this example the player user interface 202 includes a visual space 204 displaying a similar graphic as shown in Fig. 1. The player user interface 202

1 also includes controls 206, shown integrated into an exemplary taskbar user
2 interface 208 shown at the bottom of an exemplary screen shot 210. In this
3 example the player controls 206 remain visible and ready for use even if the non-
4 media-playing application and its window 104 are in perspective.

6 **Exemplary System**

7 *Overview*

8 Fig. 3 shows an exemplary system 300 usable to create a taskbar media
9 player and facilitate related methods. The system 300 includes a display 302
10 having a screen 304, a user-input device 306, and a computer 308. The user-input
11 device 306 can include any device allowing a computer to receive input from a
12 user, such as a keyboard 310, other devices 312, and a mouse 314. The other
13 devices 312 can include a touch screen, a voice-activated input device, a track ball,
14 and the like. The user can send input via the user-input device 306 to the
15 computer 308 to control media, for instance. The user can use the display 302 and
16 its screen 304 to view user interfaces, including those containing visual media.
17 Figs. 1, 2, and 5 show examples of the screen 304.

18 The computer 308 includes components shown in block 309, such as a
19 processing unit 316 to execute applications and a memory 318 containing various
20 applications and the processes that contain them. The memory 318 includes
21 volatile and non-volatile memory and the applications described in Fig. 4.

22 Fig. 4 shows applications included within the memory 318 of Fig. 3,
23 communication between these programs (shown as solid lines), and process
24 boundaries (shown as dashed lines). The memory 318 includes an operating
25 system 320, a non-media-playing application 322, a taskbar player 324, and a

1 media-playing server 326. The non-media-playing application 322 can be one of
2 many different types. One exemplary type is a Microsoft® Excel® spread-sheet
3 application shown in Figs. 1 and 2.

4 5 *The Taskbar Player*

6 The taskbar player 324 includes a player deskband 328 and a player
7 controller 330. The player deskband 328 communicates with an operating system
8 shell 332, which in turn communicates with the operating system 320.

9 The operating system shell 332 is an application that implements a user
10 interface that is tightly integrated with the operating system 320. This tight
11 integration allows the operating system shell 332 and the operating system shell
12 process in which it runs additional flexibility not available to other processes and
13 the applications that run within them.

14 The player deskband 328 is a program module that communicates with the
15 operating system shell 332. The player deskband 328 determines parameters for
16 how the taskbar player 324 is to operate with the operating system shell 332. The
17 player deskband 328 stores these parameters for later use by the taskbar player 324
18 in a skin file 334.

19 This skin file 334 helps the taskbar player 324 build the player user
20 interface 202. Parameters held in the skin file 334, for instance, include a size and
21 position in the operating system shell's 332 user interface 208 that the taskbar
22 player 324's user interface 202 is allotted. The skin file 334 and the player user
23 interface 202 will be discussed in greater detail below.

24 Through the communication between the player deskband 328, the
25 operating system shell 332, and the operating system 320, the player deskband 328

1 enables the player user interface 202 (and the taskbar player 324) to be integrated
2 with the operating system shell 332.

3 This integration with the operating system shell 332 allows, for instance,
4 the taskbar player's 324 controls 206 to not take up available screen space beyond
5 that used by the operating system shell 332. The controls 206 do not have to take
6 up available space because the controls 206 can be integrated into the existing user
7 interface used by the operating system shell 332 (here the taskbar user interface
8 208). Because the controls 206 do not have to take up available screen space, the
9 controls 206 do not have to alter an existing layout or behavior of other
10 application's user interfaces. The controls 206, for instance, can be implemented
11 such that they do not obscure or require movement or resizing of other user
12 interfaces (such as a non-media-playing application user interface 212 of Fig. 2).

13 Also by being integrated, the taskbar player 324 operates with the operating
14 system shell 332 and executes within the shell process, allowing the taskbar player
15 324 to interact with a user but still allow interaction between the user and an in-
16 perspective application or process, such as the non-media-playing application 322.

17 The operating system shell 332 can interact with a user without being in
18 perspective, even though it can appear to be in perspective. Thus, to a user the
19 taskbar player 324 acts as if it is in perspective, allowing the user to interact with
20 it's player user interface 202 without first selecting the player user interface 202 to
21 put it into perspective. Also, the user does not have to leave the non-media-
22 playing application 322, thereby putting it out of perspective, to interact with
23 operating system shell 332 (and thus the integrated taskbar player 324).

24 The player deskband 328 also can build the skin file 334. The skin file 334
25 contains parameters useful in building the player user interface 202 into the

1 taskbar user interface 208. These parameters can include text, art, and script
2 parameters, which can govern the text used in, the graphics and look of, and
3 various other parameters governing the player user interface 202. The other
4 parameters can include the position, size, and operating specifications for the
5 player user interface 202. These other parameters can be attained by the player
6 deskband 328 through communication with the operating system shell 332. In one
7 implementation, a user can choose and alter text, art, and script parameters so that
8 the player user interface 202 conforms to the user's preferences. These
9 preferences can be retained by the taskbar player 324 or the operating system shell
10 332.

11 Also through this communication, the player deskband 328 can instruct the
12 operating system shell 332 to dedicate a minimum size and a particular position
13 for the player user interface 202 in the operating system shell's 332 user interface
14 208.

15 The player controller 330 implements the player user interface 202. The
16 player controller 330, in one implementation, is an ActiveX control, which is
17 integrated into the taskbar player 324. The player user interface 202 creates the
18 taskbar player visual space 204 and the controls 206 from which a user can select
19 various media services. The taskbar player visual space 204 is a space on the
20 screen 304, such as in a window, in which visual media can be displayed.

21 Fig. 5 shows an example of the screen 304, the player user interface 202,
22 the taskbar player visual space 204, and the controls 206.

23 The player user interface 202 can, through the controls 206 or otherwise,
24 enable a user to control media. The controls 206 include various control buttons
25

1 for easy selection of a media-playing service. A user can, for instance, use the
2 mouse 314 to click on the control buttons on the player controls 206.

3 In one implementation, the user can select the following services by
4 clicking on (or, in some cases, hovering their mouse icon over) the following
5 control buttons: that the media file be paused with a pause control button 502; that
6 the media file be stopped with a stop control button 504; that the taskbar player
7 324 go to a previous track in the media file (such as a compact disc playing album
8 tracks) with a previous track control button 506; similarly, that the taskbar player
9 324 go to a next track with a next track control button 508; that a volume for the
10 media file be muted/unmuted with a mute control button 510; that the volume for
11 the media file be increased or decreased with a volume control button 512; that
12 metadata for the media file be presented (or options for metadata) with a metadata
13 control button 514; that the taskbar player visual space 204 be hidden or shown
14 with visual space control button 520; that the taskbar player 324 switch play of the
15 media file to a larger, more advanced media player like the media-playing server
16 326 with an advanced services control button 518; or that a menu for the media
17 library 342 be presented with a library button 516.

18 The player user interface 202 can also enable the user to play a media file
19 by allowing the user to drag-and-drop a system object (e.g., an icon) representing a
20 media file onto the controls 206, the taskbar player visual space 204, or another
21 part of the player user interface 202.

22 The taskbar player 324 is capable of playing back audio files, visual files, a
23 combination of both (like a music video), television, photos, and the like. The
24 taskbar player 324 is also capable of presenting metadata, like information about
25 songs on a CD being played or other media accessible by the taskbar player 324.

1 Fig. 6 shows an example of metadata presented through the player user
2 interface 202, shown in the taskbar player visual space 204. This metadata
3 includes facts about a particular song, here that the song being played is entitled
4 “Highway Blues”, was composed by “Marc Seales”, and is from an album named
5 “Speakin’ Out.” The metadata can be accessed by the taskbar player 324 through
6 the media-playing server 326, internal to the taskbar player 324, or otherwise. The
7 metadata can be selected for viewing by the user with the metadata control button
8 514 shown in Fig. 5.

9 The player user interface 202 can also enable the user to search through
10 media (and related metadata) in the media library 342. In one implementation, the
11 player user interface 202 enables the user to pick through metadata.

12 Fig. 7 shows an example of one way in which the player user interface 202
13 enables a user to pick through metadata within a media library 342. Fig. 7 shows
14 the library button 516 and a media selection dialog box 702 allowing the user to
15 select various media categories. Fig. 7 also shows a list of media files selected by
16 the user through the media selection dialog box 702 (“Auto Playlists”), shown in a
17 media files dialog box 704. This list includes information about playlists of media
18 files. It includes information about files the user has rated highly, plays often, has
19 not played recently, listens to on weekdays, listens to on weekends, has not
20 played, has not rated yet, and dislikes. It also includes information about files that
21 are new to the user or are protected, as well as information about high and low
22 bitrate media files available.

23 As shown in this example and further above, the taskbar player 324 enables
24 a user to enjoy many services with an easy-to-use graphical interface.
25

The Media-Playing Server

The media-playing server 326 includes a playback engine 338, a server visual space 340, and the media library 342. An example of the server visual space 340 is shown in Fig. 1. The server visual space 340 comprises a portion of the computer's 308 graphical display area that the media-playing server 326 governs and through which it presents graphical information to the user. The space is typically a window or a portion of a window.

The playback engine 338 renders media files in the player visual space 204 and plays audio. It can also render and play media for the media-playing server 326. The playback engine 338 is shown in Fig. 4 as part of the media-playing server 326, but can be internal to the taskbar player 324 or run inside an operating system shell process in which the taskbar player 324 runs.

The playback engine 338, in this implementation, runs as part of the media-playing server 326 to enable a user to switch play of a media file to another process (like the server process of Fig. 4). Thus, if the user wants to expand the media being played to a larger space with advanced services, the user can do so. The taskbar player 324 enables the user, such as with the advanced services control button 518 on the controls 206 as shown in Fig. 5, to switch rendering of the media file to the media-playing server 326 to enjoy more advanced services. An example of the media-playing server 326 presenting a media file in the server visual space 340 is shown in Fig. 1.

The taskbar player 324 can use the playback engine 338 for other services, like rendering metadata or visualizations in the taskbar player visual space 204. In the implementation shown in Fig. 4, however, the taskbar player 324 renders metadata and visualizations internally.

1 The taskbar player's 324 player controller 330 can use the media library
2 342 in the server process shown in Fig. 4. The taskbar player 324 can also use its
3 own library (not shown).

4 The above devices and applications are merely representative, and other
5 known devices and programs may be substituted for or added to those shown in
6 Figs. 3 and 4. One example of another known device that can be substituted for
7 those shown in Figs. 3 and 4 is the device shown in Fig. 10.

8 9 Control of Media

10 *Overview*

11 Fig. 8 shows a flow diagram 800 for enabling a user to control media while
12 working in a non-media-playing application. This and the following flow diagram
13 are illustrated as series of blocks representing operations or acts performed by the
14 system 300. These diagrams may be implemented in any suitable hardware,
15 software, firmware, or combination thereof. In the case of software and firmware,
16 they represent sets of operations implemented as computer-executable instructions
17 stored in memory and executable by one or more processors.

18 In the flow diagram 800, the system 300 enables a user to interact with the
19 player user interface 202, thereby allowing control of media, without losing
20 perspective on the non-media-playing application 322. The user is able to
21 continue working in the non-media-playing application 322 while also being able
22 to control media.

23 The system 300 also enables a user to interact with the player user interface
24 202 without needing to bring the player user interface 202 into perspective.

1 In one implementation, the system enables a user to interact with the player
2 user interface 202 without needing to bring the player user interface 202 into
3 focus.

4 At block 802, the system 300 receives input through the player user
5 interface 202 to control media without the player user interface 202 being in
6 perspective and/or other applications losing perspective. By so doing, the system
7 300 saves the user time and energy. The user can select, with as little as one
8 command (such as a mouse click), to stop, start, pause, move to next track, and
9 alter the media's visual space or volume. Further, the user can do so while
10 working in the non-media-playing application 322 without interrupting his or her
11 work with the non-media-playing application's 322 window or user interface.

12 Fig. 2 shows an example of the screen 304 displaying an example of the
13 non-media-playing application user interface 212 generated by the non-media-
14 playing application 322, and the player user interface 202. Here the non-media-
15 playing application user interface 212 remains in perspective, thereby allowing a
16 user to interact and otherwise work in the non-media-playing application 322. By
17 being in perspective, the non-media-playing application 322 can continue to
18 interact with the user. This interaction can include display of ongoing functions,
19 like new email being received, computations being run, and results of the
20 computations being shown. This interaction can also include enabling the user to
21 input commands and otherwise interact with the non-media-playing application
22 322.

23 While keeping the non-media-playing application 322 in perspective, the
24 system 300 allows the user to interact with the player user interface 202 to control
25 media. In this example a media file being played includes a graphic, shown in the

1 taskbar player visual space 204 of Fig. 2. The user can control the media played
2 through selecting services with control buttons on the controls 206 (such as the
3 buttons shown in Fig. 5), drop-down lists, keystroke-entered commands, and in
4 other manners.

5 In one implementation, the system 300 enables a user to control media as if
6 the media user interface were part of or integrated with the non-media-playing
7 application 322. In this implementation, the system 300 enables the user to
8 control media running in another process (here the operating system shell process)
9 while interacting with the non-media-playing process without interrupting the
10 user's interaction with the non-media-playing process. Thus, the system 300
11 allows reception of input into the operating system shell process while retaining
12 perspective on the non-media-playing application 322 running in the non-media-
13 playing process (shown in Fig. 4).

14 At block 804, the system 300 controls the media in accordance with input
15 received from the user. The system 300 is able to implement the control received
16 by the taskbar player 324 while retaining perspective on the non-media-playing
17 application 322 executing in another process.

18 A user can, for example, work in the non-media-playing application's 322
19 user interface 212 (which is in perspective), such as by typing information or
20 selecting files, thereby interacting with the non-media-playing application 322.
21 Then, while retaining perspective and full interactive capabilities with the non-
22 media-playing application's 322 user interface 212, click on the controls 206 to
23 select media-playing services. Following this selection, the taskbar player 324 can
24 implement the selected service, such as forwarding to another track on an audio
25 CD. The user is able to continue interacting with the non-media-playing

1 application's 322 user interface 212 without having to bring back into perspective
2 a window of the user interface 212 or perform other actions that may interrupt the
3 user. This allows the user to efficiently work with the non-media-playing
4 application 322 while also interacting with and controlling media running in the
5 taskbar player 324.

7 *Implementing the Taskbar Player*

8 Fig. 9 shows an exemplary implementation in flow diagram 900 for
9 creating and using the taskbar player 324.

10 In block 902, the system 300 registers the taskbar player deskband 328.
11 Then the operating system shell 332 creates and hosts the taskbar player deskband
12 328 (block 904). This deskband 328 can communicate with the operating system
13 shell 332. The deskband 328 communicates with the operating system shell 332 to
14 gain parameters for how the system 300 is to structure the player user interface
15 202 of the player controller 330. These parameters can be included in the skin file
16 334.

17 In block 906, the system 300 installs the player controller 330. This player
18 controller 330 is responsible for building the player user interface 202, the taskbar
19 player visual space 204, and the controls 206.

20 In block 908, the deskband 328 communicates with the controller 330 to
21 relay the parameters for the player user interface 202. These parameters can be
22 retained within the skin file 334. The skin file 334 includes the location, size, and
23 various appearance parameters for the player user interface 202 to conform.

24 In block 910, the player controller 330 creates the user interface 202
25 conforming to the parameters in the skin file 334.

1 Fig. 2 shows an example of the player user interface 202. Here the player
2 user interface 202 is built with a certain size (measured in pixels), a certain
3 location (to the far right in the taskbar user interface 208), with a certain
4 appearance (the controls 206 being colored grey and the manner to select services
5 being buttons), and with the taskbar player visual space 204 having a particular
6 size and location directly above the controls 206.

7 In block 912, the system 300 looks up the playback engine 338. The
8 system 300 can use the player controller 330 to communicate with the operating
9 system 320 to find the playback engine 338. The operating system 320 can then
10 search through the server process to find the media-playing server 326 and/or the
11 playback engine 338.

12 At block 914, if the playback engine 338 is not alive, the system 300
13 proceeds along the “No” path to block 916. If it is, it proceeds along the “Yes”
14 path to block 918.

15 At block 916, the system 300 creates the playback engine 338 and, in some
16 cases also the media-playing server 326.

17 At block 918 the system 300 hooks the player controller 330 to the
18 playback engine 338. Here, the taskbar player 324 is communicating with the
19 media-playing server 326, and the playback engine 338 is hooked to the player
20 controller 330. The playback engine 338 can be hooked to the player controller
21 330 using a messaging system or architecture of the operation system 320. In one
22 implementation, where the operating system 320 is a Windows® operating
23 system, Windows® messaging is used. These are hooked so that the playback
24 engine can render a visual media file or play an audio media file (or both) for the
25 player controller 330.

1 Thus, in cases where the playback engine 338 is asked to render video for
2 the player controller 330, the playback engine 338 renders video directly to the
3 taskbar player visual space 204, which the taskbar player visual space 204 then
4 presents (block 920).

5 In cases where the playback engine 338 is playing back audio, it
6 communicates the audio to speakers and the like, rather than the player controller
7 330 (block 920), though non-audio (such as accompanying video or information
8 about or accompanying the audio) is still communicated to the player controller
9 330.

10 The playback engine 338 runs in another process and can run within the
11 media-playing server 326 to allow a user to easily and quickly switch presentation
12 of video or playback of audio to the media-playing server 326. This media-
13 playing server 326 can offer many advanced services, which the user may wish to
14 enjoy. Having the playback engine 338 run in this other process is not necessary
15 for use of the taskbar player 324, but can aid the user in switching back and forth
16 between the media-playing server 326 and the taskbar player 324.

17 18 **A Computer System**

19 Fig. 10 shows an exemplary computer system that can be used to
20 implement the processes described herein. Computer 1042 includes one or more
21 processors or processing units 1044, a system memory 1046, and a bus 1048 that
22 couples various system components including the system memory 1046 to
23 processors 1044. The bus 1048 represents one or more of any of several types of
24 bus structures, including a memory bus or memory controller, a peripheral bus, an
25 accelerated graphics port, and a processor or local bus using any of a variety of

1 bus systems. The system memory 1046 includes read only memory (ROM) 1050
2 and random access memory (RAM) 1052. A basic input/output system (BIOS)
3 1054, containing the basic routines that help to transfer information between
4 elements within computer 1042, such as during start-up, is stored in ROM 1050.

5 Computer 1042 further includes a hard disk drive 1056 for reading from
6 and writing to a hard disk (not shown), a magnetic disk drive 1058 for reading
7 from and writing to a removable magnetic disk 1060, and an optical disk drive
8 1062 for reading from or writing to a removable optical disk 1064 such as a CD
9 ROM or other optical media. The hard disk drive 1056, magnetic disk drive 1058,
10 and optical disk drive 1062 are connected to the bus 1048 by an SCSI interface
11 1066 or some other appropriate interface. The drives and their associated
12 computer-readable media provide nonvolatile storage of computer-readable
13 instructions, data structures, program modules and other data for computer 1042.
14 Although the exemplary environment described herein employs a hard disk, a
15 removable magnetic disk 1060 and a removable optical disk 1064, it should be
16 appreciated by those skilled in the art that other types of computer-readable media
17 which can store data that is accessible by a computer, such as magnetic cassettes,
18 flash memory cards, digital video disks, random access memories (RAMs), read
19 only memories (ROMs), and the like, may also be used in the exemplary operating
20 environment.

21 A number of program modules may be stored on the hard disk 1056,
22 magnetic disk 1060, optical disk 1064, ROM 1050, or RAM 1052, including an
23 operating system 1070, one or more application programs 1072 (such as the
24 taskbar player 324), other program modules 1074, and program data 1076. A user
25 may enter commands and information into computer 1042 through input devices

1 such as a keyboard 1078 and a pointing device 1080. Other input devices (not
2 shown) may include a microphone, joystick, game pad, satellite dish, scanner, or
3 the like. These and other input devices are connected to the processing unit 1044
4 through an interface 1082 that is coupled to the bus 1048. A monitor 1084 or other
5 type of display device is also connected to the bus 1048 via an interface, such as a
6 video adapter 1086. In addition to the monitor, personal computers typically
7 include other peripheral output devices (not shown) such as speakers and printers.

8 Computer 1042 commonly operates in a networked environment using
9 logical connections to one or more remote computers, such as a remote computer
10 1088. The remote computer 1088 may be another personal computer, a server, a
11 router, a network PC, a peer device or other common network node, and typically
12 includes many or all of the elements described above relative to computer 1042.
13 The logical connections depicted in Fig. 10 include a local area network (LAN)
14 1090 and a wide area network (WAN) 1092. Such networking environments are
15 commonplace in offices, enterprise-wide computer networks, intranets, and the
16 Internet.

17 When used in a LAN networking environment, computer 1042 is connected
18 to the local network through a network interface or adapter 1094. When used in a
19 WAN networking environment, computer 1042 typically includes a modem 1096
20 or other means for establishing communications over the wide area network 1092,
21 such as the Internet. The modem 1096, which may be internal or external, is
22 connected to the bus 1048 via a serial port interface 1068. In a networked
23 environment, program modules depicted relative to the personal computer 1042, or
24 portions thereof, may be stored in the remote memory storage device. It will be
25

1 appreciated that the network connections shown are exemplary and other means of
2 establishing a communications link between the computers may be used.

3 Generally, the data processors of computer 1042 are programmed by means
4 of instructions stored at different times in the various computer-readable storage
5 media of the computer. Programs and operating systems are typically distributed,
6 for example, on floppy disks or CD-ROMs. From there, they are installed or
7 loaded into the secondary memory of a computer. At execution, they are loaded at
8 least partially into the computer's primary electronic memory. The invention
9 described herein includes these and other various types of computer-readable
10 storage media when such media contain instructions or programs for implementing
11 the blocks described below in conjunction with a microprocessor or other data
12 processor. The invention also includes the computer itself when programmed
13 according to the methods and techniques described herein.

14 For purposes of illustration, programs and other executable program
15 components such as the operating system are illustrated herein as discrete blocks,
16 although it is recognized that such programs and components reside at various
17 times in different storage components of the computer, and are executed by the
18 data processor(s) of the computer.

20 **Conclusion**

21 The above-described system includes a taskbar player, which enables a user
22 to control and play media from a taskbar. The taskbar player and related methods
23 also enable the user to control media while remaining in perspective with another
24 application. Although the invention has been described in language specific to
25 structural features and/or methodological acts, it is to be understood that the

1 invention defined in the appended claims is not necessarily limited to the specific
2 features or acts described. Rather, the specific features and acts are disclosed as
3 exemplary forms of implementing the claimed invention.
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25